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ABSTRACT

The Adult Performance Level (APL) project summary specifies the competencies which are functional to economic and educational success in society and describes devices developed for assessing those competencies. The APL theory of functional competency identifies adult needs in general knowledge areas (consumer economics, occupational knowledge, community resources, health, and government and law) and in primary skills (communication skills, computation skills, problem solving skills, and interpersonal relations skills). The APL project methodology involved the following activities: specification of competencies, development of performance indicators, field test and subsequent revision, national assessment of competency, and determination of competency levels. Three APL levels are identified: APL 1--adults functioning with difficulty, APL 2--functional adults, and APL 3--proficient adults. An APL national survey (five samples totaling 7,500 adults) on functional competency reports the competency levels of adults according to knowledge and skill areas and demographic groupings, with 20% falling in the APL 1 category. Additional performance data related to general knowledge areas and primary skills are provided. Possible methods for APL implementation and dissemination in the classroom, local program, State, and national levels are suggested as well as its implications for elementary and secondary education. Appended materials include additional notes on APL goals, objectives, and tasks. (Author/EC)

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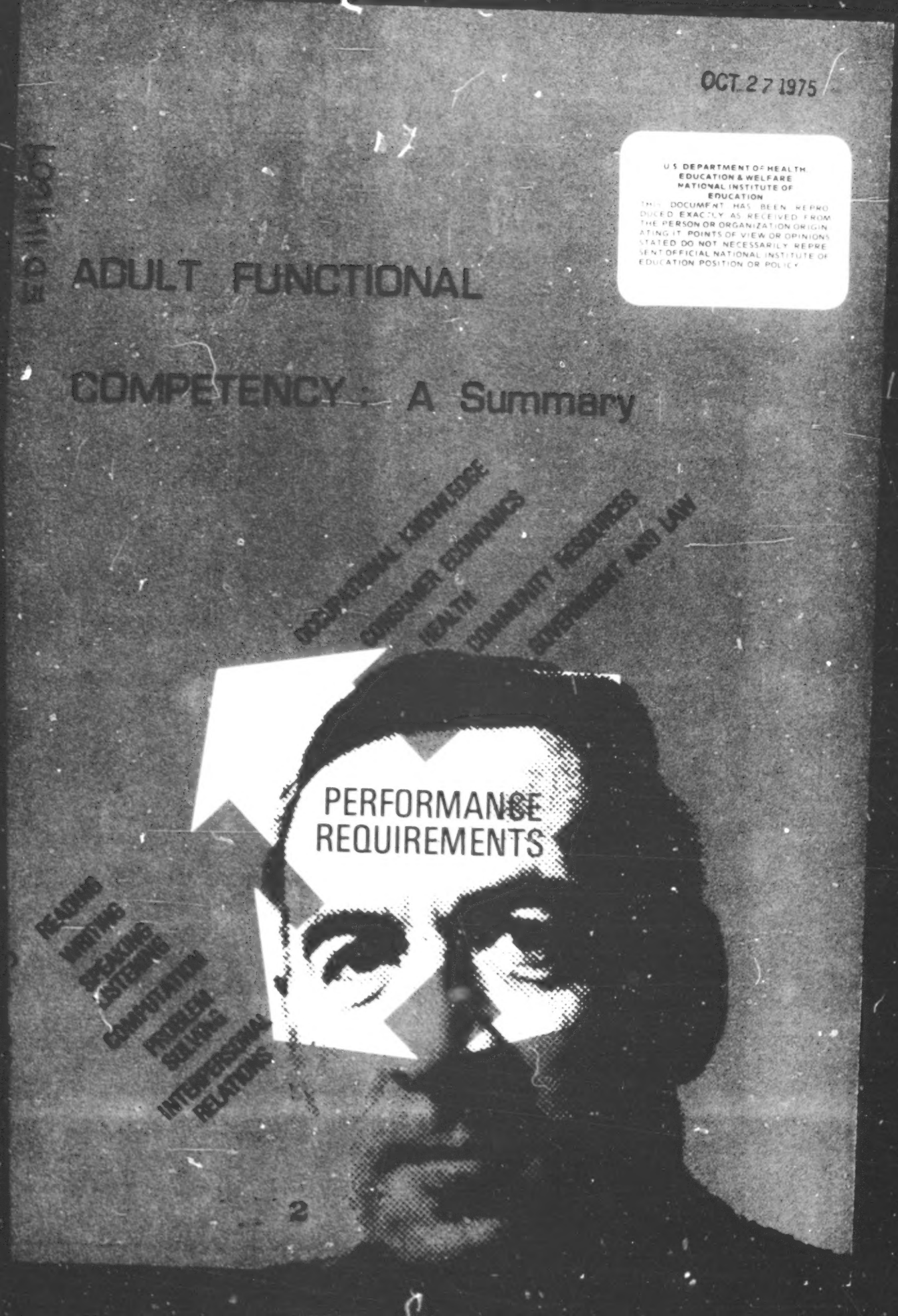

ADULT FUNCTIONAL COMPETENCY: A Summary

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I. OBJECTIVES

The ability to use skills and knowledge with the functional competence needed for meeting the requirements of adult living is often called "functional literacy," "survival literacy," or occasionally "coping skills." The central objectives of the Adult Performance Level (APL) project are to specify the competencies which are functional to economic and educational success in today's society and to develop devices for assessing those competencies of the adult population of the United States.

Although millions, perhaps billions, of dollars have been spent on educational research, practically all of that money has been in support of studies designed to either develop educational programs or products or to compare the effectiveness or efficiency of competing programs and products. Unfortunately, questions of effectiveness and efficiency are irrelevant if the objectives on which programs are based are not appropriate.

Attempts to use the tools of behavioral and operations research to specify the transcendent objectives of educational systems have been practically nonexistent. Researchers are much more adept at answering the question, "Which reading program is most effective?" than the more fundamental question, "Why is reading important?" The Adult Performance Level project activities occur in the latter arena.

II. A THEORY AND METHODOLOGY OF ADULT FUNCTIONAL COMPETENCY

The APL theory of functional competency was arrived at in the following manner. The staff focused on the first objective of the project which was to identify basic requirements for adult living. Rather than rely upon expert opinion, four simultaneous lines of research were pursued.

1. Review of related literature and research. A wide variety of behavioral and social research was reviewed in order to find a way to categorize the needs of the undereducated and underemployed adult. In addition to the traditional sources of information, the documentation of dozens of studies or projects which had so-called disadvantaged groups as their target was collected and reviewed. Data gathered by the National Assessment of Educational Progress project was also of great use.

2. An extensive survey of state and federal agencies and foundations was conducted in order to identify characteristics which distinguished the successful from the unsuccessful adult. The assumption was that a major source of knowledge of minimum performance criteria existed in the experiences, accumulated data, and reports of professionals who deal with the minimally performing adult. For example, interviews were conducted with 49 individuals from 25 different state and federal agencies during the initial phase. These persons provided literature, studies, data, and comments relevant to the objectives of the project.

3. A series of conferences on adult needs was conducted in different regions of the country. Adult educators, members of the private sector (e.g., supervisors and personnel managers), and members of different state and federal agencies were brought together to review APL progress and to add their insights and information to the pool.

4. A continuing series of semi-structured interviews with undereducated and underemployed persons was begun in order to gather some first-hand data on their felt needs.

The result of these activities, which occupied much of the first year of the study, was a taxonomy of adult needs which finally came to be called "general knowledge areas." These general areas, which may be considered as the content of adult literacy, are now known as (1) consumer economics, (2) occupational (or occupationally-related) knowledge, (3) community resources, (4) health, and (5) government and law.

Having identified the general knowledge areas which seemed to be the most critical to adult performance related to the acquisition of literacy, data which had been obtained were then reanalyzed. This time, however, the concern was not with the content of literacy, but with the skills involved. Four primary skills seemed to account for the vast majority of requirements placed on adults. These skills were named (1) communication skills (reading, writing, speaking, and listening), (2) computation skills, (3) problem solving skills, and (4) interpersonal relations skills.

By this time it should be clear that the concern of the APL project is much more than the stereoptypical notion of literacy. Because the term "literacy" popularly connotes a low level of functioning (e.g., the ability to read and write one's name) which may have nothing to do with functional competence, we have chosen to excise the word "literacy" from the rest of this exposition. Instead, we will consistently use the phrase "functional competency." This practice seems to be preferable to reeducating the whole world concerning the true meaning of literacy.

APL findings allowed for the construction of a general theory of adult functional competency which is summarized below:

1. Functional competency is a construct which is meaningful only in a specific societal context. A correlary of this thesis is that, just as functional competency is culture-bound, it is perhaps even more closely bound to the technological state of a particular society. The person who is functionally competent in one society may be incompetent in another. Furthermore, as technology changes, the requirements for competency change.

2. Functional competency does not consist just of a single skill or even a set of skills. Relevant to the skills and general knowledge areas identified by APL research, functional competency is two-dimensional; it is best described as the application of a set of skills to a set of general knowledge areas (see Figure 1 on following page) which result from the requirements imposed upon members of a society. The APL project used this approach as the basic framework for generating the essential elements or performance requirements of adult functional competency.

3. Adult competency is a function of both individual capabilities and societal requirements. To restate the thesis: A person is functionally competent only to the extent that he or she can meet the requirements which are extant at a given point in time. If the requirements change and the individual does not adapt by either acquiring more or different knowledges and skills, then that person becomes less competent. Functional competence is a dynamic process, rather than a static state.

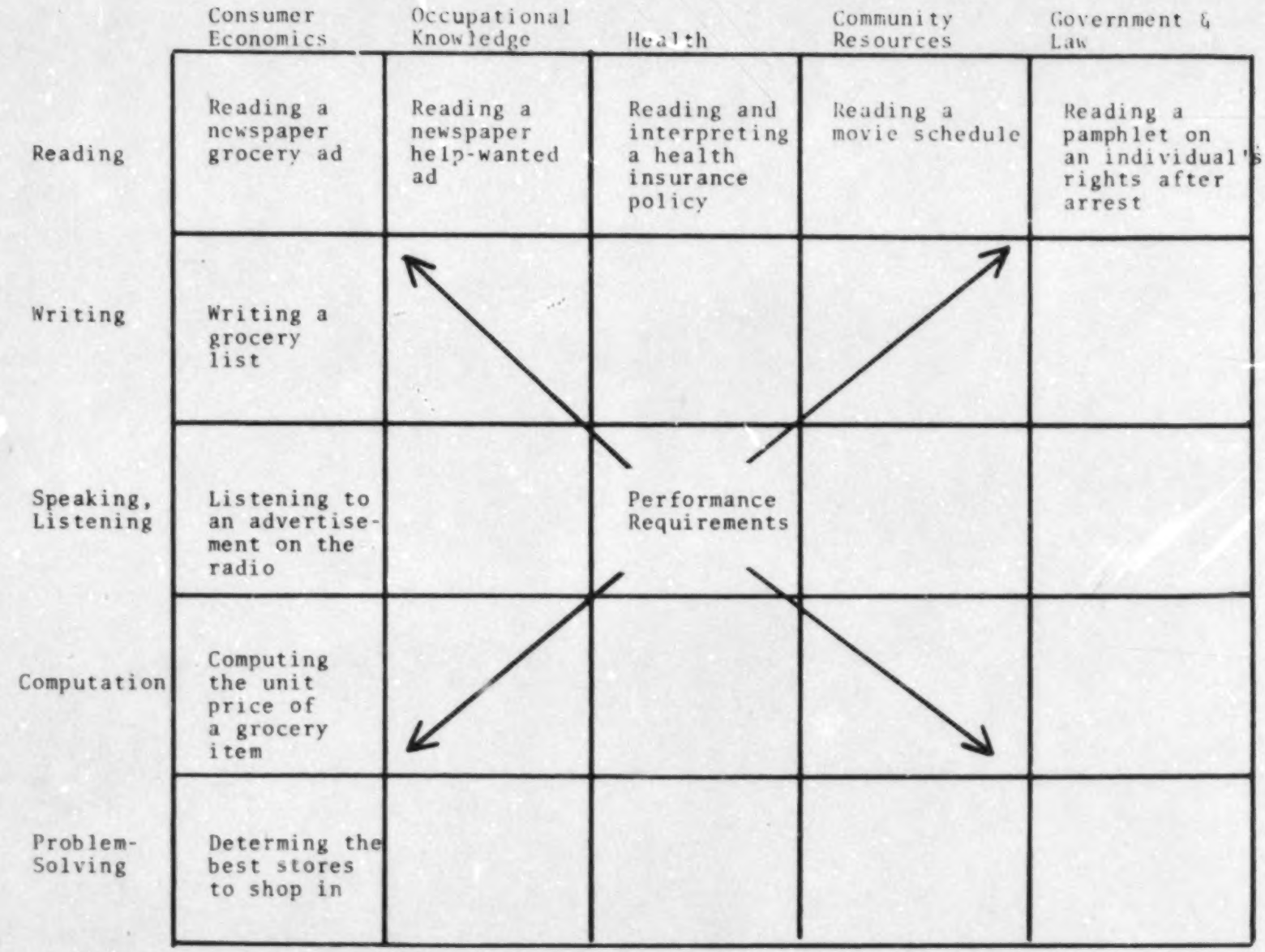
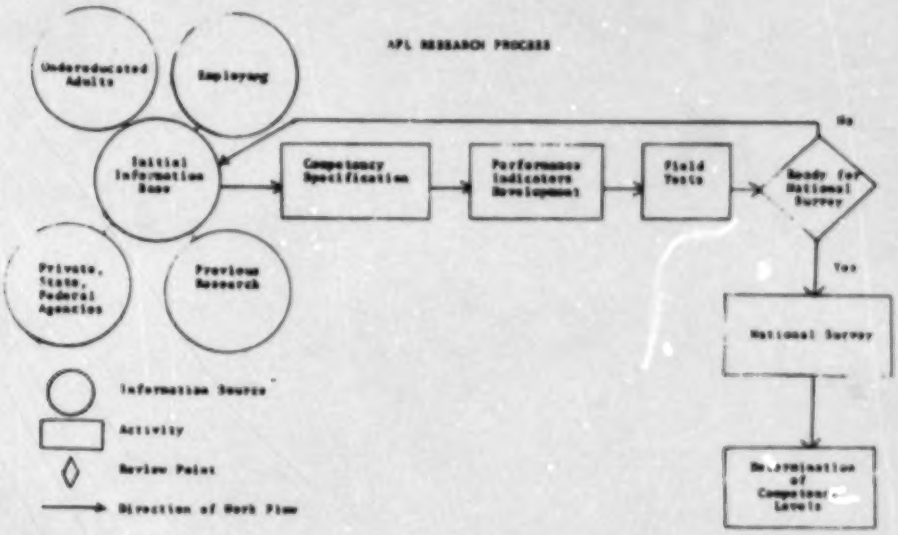


Figure 1. The APL Model of Functional Competency

4. Functional competency is directly related in a mathematical sense to success in adult life. This is an operating assumption which underlies all APL research activities. However we define functional competency, we expect more competent adults to be more successful.

The APL project has drawn from a variety of educational, sociological, economic and behavioral studies to analyze different criteria of success. Based on this experience, an index of success is used which is a composite of (1) income, (2) level of education, and (3) occupational status. The assumption that competency is directly related to success implies that not only must the measure be derived from performances which are taken from the adult milieu, but that performance on such a measure must be positively correlated to success.

Once a general theory of functional competency had been developed, and a taxonomy of associated adult performances created, the way was open for the evolution of the final APL methodology, which is summarized in the following diagram and discussion.



Methodology

1. Specification of competencies. From the sources of information identified previously, the performance requirements are aggregated into general requirement statements called "objectives." These objectives are keyed to the five APL general areas.

The set of objectives, taken as a whole, form the APL description of the behaviors which are important to adult competency. A copy of the latest APL objectives can be found at TAB A.

2. Development of performance indicators. Performance indicators are written for each competency. These are not "test items" in the traditional sense. Because they reflect requirements taken from adult life, they are small simulations of what is demanded of the adult by his or her society, and they require the adult to employ communication, computation, problem-solving, and interpersonal relations skills in a variety of adult-related situations.

3. Field test and subsequent revision. Initial versions of the performance indicators were field tested with undereducated and underemployed adults. An initial round of field testing involving some 3,500 adults was conducted with the cooperation of Adult Basic Education programs in 30 states. Since that time, several thousand more adults have been tested in a number of states with subsequent versions of the performance indicators. Field testing and subsequent revision of performance indicators is a continuous, rather than one-time process, as indicated by the flow of activities in Figure 2.

Information gathered during the field test stage is used to respecify objectives and to improve the quality of performance indicators. These revised versions of both objectives and indicators are fed back to the original information sources for further revision and specification. The entire specification-field test-feedback-respecification process is cycled as many times as is necessary to reach consensus regarding a given objective, although typically three iterations are required. Each objective must also meet the empirical tests of non triviality and of positive correlation to various indicators of success. (Those of you who are so inclined will recognize this method as a somewhat modified Delphi technique.)

4. National assessment of competency. The next step in the APL research process is to determine national levels of performance with regard to the objectives. Performance indicators are formatted into a series of interview schedules. With the assistance of a subcontractor (Opinion Research Corporation, Princeton, New Jersey) a representative sample of adults is drawn from the continental United States, excluding Alaska and Hawaii, and data are obtained from this sample. To date, five independent samples of the population have been drawn, each with a size of not less than 1,500, for a total of 7,500 adults. The overall precision of each sample is about 4% at the 95% confidence level for an item which breaks at the 50-50 level.

5. Determination of competency levels. The final stage of the process is to determine meaningful and well-defined competency levels from data gathered in the various national surveys. This determination is accomplished by (1) examining the performance of the population on an objective-by-objective basis, and (2) describing overall competency in terms of three levels based on an aggregate index (This aggregate index of functional competency is defined below). In essence, the nationally representative survey data are used to develop "competency profiles" which are associated with different levels of adult success as measured by income, job status, and education. Three such levels have been chosen and are called simply APL 1, APL 2, and APL 3.

APL 1

(ADULTS WHO FUNCTION WITH DIFFICULTY)

APL 1's are those adults whose mastery of competency objectives is associated with:

1. Inadequate income of poverty level or less
2. Inadequate education of eight years of school or fewer
3. Unemployment or occupations of low job status

APL 2

(FUNCTIONAL ADULTS)

APL 2's are those adults whose mastery of competency objectives is associated with:

1. Income of more than poverty level but no discretionary income
2. Education of nine to eleven years of school
3. Occupations falling in medial job status range

APL 3

(PROFICIENT ADULTS)

APL 3's are those adults whose mastery of competency objectives is associated with:

1. High levels of income or varying amounts of discretionary income
2. High levels of education, high school completion or more
3. High levels of job status.

Notice that each of the three APL levels is a conjoint definition based on predicted income, education, and job status. Test data are used to "predict" an adult's success level, based on his functional competencies. Those persons classified as APL 1 are, by and large, "functionally incompetent" or adults who function with difficulty. APL 2's are competent, or adults functioning on a minimal level; and APL 3's are proficient in that their mastery of competency objectives is associated with the highest levels of income, job status and education.

Since the sample data are nationally representative, it is possible to estimate the proportion of the U.S. adult population which comprises each APL level. A discussion of these and other results follows.

III. HOW FUNCTIONALLY COMPETENT ARE U.S. ADULTS?

In general, the answer to the question posed by this section is "not as competent as we thought." Overall, approximately one-fifth of U.S. adults are functioning with difficulty. This estimate is based on a representative sample of adults performing on indicators which cover the five general knowledge areas and four skills.

The results of the APL national survey on functional competency will be presented as follows: (1) For each general knowledge area and skill area, the proportion of the population estimated to be in levels 1, 2, or 3 are reported; and (2) For each major demographic grouping, the proportion of the population estimated to be in levels 1, 2, or 3 are presented.

Competency levels by knowledge area and skills. The percentages of the adult population which are in APL levels 1, 2 or 3 as determined by performance on those indicators in the survey which measure knowledge and skills are presented in the following table.

Areas	APL Competency Levels		
	1	2	3
Occupational Knowledge	19.1	31.9	49.0
Consumer Economics	29.4	33.0	37.6
Government and Law	25.8	26.2	48.0
Health	21.3	30.3	48.3
Community Resources	22.6	26.0	51.4
Reading	21.7	32.2	46.1
Problem Solving	28.0	23.4	48.5
Computation	32.9	26.3	40.8
Writing	16.4	25.5	58.1
Overall Competency Levels	19.7	33.9	46.3

In terms of the general knowledge areas, the greatest area of difficulty appears to be Consumer Economics. Almost 30% of the population falls into the lowest level (APL 1), while one-third of the population is categorized as APL 2. Translated into population figures, some 34.7 million adult Americans function with difficulty and an additional 39 million are functional, (but not proficient) in coping with basic requirements that are related to Consumer Economics.

The highest proportion of proficient persons (most able to cope) is found in relation to Community Resources. Over half of the U.S. population falls into APL level 3. This is followed by Occupational Knowledge; again, almost half of the population is estimated to be proficient in dealing with occupationally-related tasks. Although the least proportion of persons in comparison to all areas are in level 1 of Occupational Knowledge, this still indicates that about one of every five adults in the U.S. function with difficulty or are unable to perform correctly on occupationally related performance indicators.

A greater proportion of people is unable to perform basic computations than the other skills. Approximately one-third of the population, or 39 million adults, functions with difficulty, and a little over one-fourth, or 29.5 million adults, is functional but not proficient in task performance on items

requiring mathematical manipulation. The area of greatest competency in comparison with other skills is in writing. However, even though almost three-fifths of the population performed adequately on tasks requiring writing skills, 16% of the adults in the U.S., or, some 18.9 million persons, are unable to cope successfully.

Competency levels by demographic groupings. The purpose for selecting certain demographic groupings and comparing the results within a group is to discover trends which might arise. As seen in the definitions given earlier for the APL three competency levels, "success" was an important variable in the study. In general, the three success indices (level of education, family income and job status) demonstrate a positive relationship with performance. The percent of the population estimated to be in APL levels 1, 2, and 3 for each reporting group of relevant demographic variables as indicated by task performance is presented in the following table.

Demographic Variables	APL Competency Levels 1	2	3
Education			
0-3 years	85%	10%	6%
4-5	84	16	0
6-7	49	37	14
8-11	18	55	27
High school completed	11	37	52
Some college	9	27	64
College graduate plus	2	17	80
Family Income			
under $5,000	40%	39%	21%
$5,000-$6,999	20	44	36
$7,000-$9,999	24	39	37
$10,000-$14,999	14	34	52
$15,000 plus	8	26	66
Job Status			
Unskilled	30%	38%	32%
Semi-skilled	29	42	29
Skilled	24	33	43
Clerical-Sales	8	38	54
Professional-Managerial	11	28	61
Age			
18-29	16%	35%	49%
30-39	11	29	60
40-49	19	32	49
50-59	28	37	35
60-65	35	40	24
Sex			
Male	17	31	52
Female	23	35	42

Demographic Variables	APL Competency Levels 1	2	3
Ethnicity			
White	16%	34%	50%
Black	44	39	17
Spanish-surname	56	26	18
Other	26	41	33
Occupational Status			
Employed	15%	28%	57%
Unemployed	36	30	34
Housewives	27	38	35
Number in Household			
1 person	21%	23%	56%
2-3	20	35	45
4-5	19	31	50
6-7	21	33	46
8 plus	43	22	35
Region			
Northeast	16%	36%	48%
North Central	15	42	43
South	25	37	38
West	15	35	50
Metropolitan Areas			
1 million plus	21%	39%	40%
under 1 million	15	38	47
Suburb	21	32	47
Urban	14	29	57

In relation to the "success" variables, for level of education the percentage of APL 1's rises steadily from about 2% for college graduates to about 85% for adults with less than 4 years of formal schooling. For family income, the percentage of functionally incompetent persons rises from about 8% for incomes of $15,000 or greater to 40% for those under $5,000 a year income. For occupation of chief wage earner, the percentage of APL 1's rises from about 11% for the professional and managerial category to approximately 30% for the unskilled.

There is a generally negative relationship between age and performance. Although the youngest group (18-29) does not have the lowest level of functionally incompetent adults, still the general trend is that the older the individual, the more likely the he/she is incompetent. It appears that males and females perform about the same; although there are minor differences with males estimated to have a greater percentage of APL 3's than females. As for ethnic groups, it appears that there are great differences between Whites and all other minority groups. While 16% of the Whites are estimated to be functionally incompetent, about 44% of the Black and 56% of the Spanish-surname groups are estimated to be so. Here, as with other variables that have been discussed, the differences are probably due to the relatively lower levels of income, education, job status, and job opportunity found among minority groups in this country.

The employed show a smaller percentage of APL 1's (15%) than did housewives (27%) who, in turn, show a smaller percentage than did the unemployed (36%). Here, again, the differences in the "success" levels (i.e., amount of income, etc.) of especially the employed and unemployed may be used to explain the variations.

With regard to the number of people in the household, the only apparent difference in percentage of APL 1's occurred in households where more than 7 people lived. While for most household populations, the percentage of functional incompetents is about 20%, for the eight or greater group, the percentage rises to 43%.

The demographic comparison of regions of the U.S. indicates that while the Northeast, Northcentral and Western parts of the U.S. have about the same percentage of APL 1's, 2's and 3's, the South has more APL 1's and less APL 3's. While all other regions of the country are estimated to have about 16% functionally incompetent adults, approximately 25% in the South are predicted to be APL 1's. Thus, a greater percentage of adults in the South appear to be in need of educational assistance than other parts of the country.

Rural areas have the greatest estimated percentage of APL 1's (27%) with cities over one million and suburbs slightly less (about 21%), and cities under one million and other urban areas having the least percentage of APL 1's.

IV. THE VALIDITY AND RELIABILITY OF APL

Validity

A strong case can be made for the validity of the APL objectives and the performance data which relate to them. Consider the following argument:

1. The objectives derive from inputs from the appropriate segments of society. These objectives, which form the APL description of adult functional competency, are the products of a research process which subjects each one to two critical tests: (1) Is the objective perceived as being important (valid) by undereducated and underemployed adults, employers, educators, and a number of other social service agencies who deal with "unsuccessful" adults? (2) Given that consensus among these groups is reached, is there evidence that mastery of a particular objective increases the probability of adult success, as indicated by income, education, and job status? Only if both questions are answered affirmatively is an objective considered to have been validated.

2. Great care was taken to construct performance indicators which were, within budgetary and time constraints, the best possible measures of the objectives. In addition to a technical review by consultants, performance indicators were also reviewed by the groups mentioned in 1. above, and were processed through several cycles of field testing and redesigning before being used on a national sample. The indicators are clearly not perfect in an absolute sense. It is impossible to obtain absolute consensus or to produce perfect correlation on any indicator. Nevertheless, there is good evidence that the APL performance indicators serve the purposes of the study very well.

3. Great care was also taken to design a national sample of adults and to exercise the proper control over field procedures in order to produce meaningful and precise results. As mentioned earlier, the sample design is straight forward, has a known precision, and is reproducible in the scientific sense. Sample design and field procedures were carried out according to specifications by an organization which has years of experience in drawing national samples and in conducting house-to-house surveys.

4. Perhaps the most important kind of "validity" is the acceptance and degree of use to which the objectives and test data will be put. Preliminary evidence indicates that, at least among the adult education community, there will be widespread acceptance and utilization. Already, several statewide efforts (notably Mississippi, Texas, and Alabama) are in progress to translate the objectives into relevant curriculum and staff development materials and methods.

Reliability

Although the term "reliability" is quite often used to refer to different constructs, "reliability" means temporal stability in the context of the APL project. That is, APL performance indicators are reliable to the extent that, assuming no major changes have taken place in either societal requirements or in the level of achievements of the general population, repeated measures produce identical results. Reliability is a function not only of the format and content of the interview itself, but of the sampling design and the field procedures. These features have just been discussed.

The traditional method of estimating reliability is repeated testing of a given sample. Coefficients of reliability calculated from total scores are used as decision variables for the estimation of reliability. No such coefficients are available at this time for APL measures, for two good reasons; (1) Reliability coefficients are based on total scores. Total scores are never calculated in the development of competency levels from APL data. (2) A test-retest design for a national sample would have cost at least $100,000. This was money which was better spent on development and validation of objectives.

There are, however, two valuable sources of information which are relevant to a discussion of the reliability of APL measures:

1. The fifth API national survey consisted of a composite battery of items which had been used in previous surveys. Although changes were made in many of the items, some useful comparisons can be made on an item-by-item basis between results from earlier surveys and results on the final survey. Theoretically, if an item had not been changed at all, the estimates from two independent samples should differ only by the precision which each sample affords. For two independent samples of size 1,500, most items require a difference of 4% or more to indicate statistically significant differences (.05 level).

For the 39 items which were not changed between surveys, the mean absolute difference was 5.5% with most items having slightly higher p-values on the second sample than on the first. Although 5.5% is somewhat higher than the anticipated 4%, the reason for these results is quite clear. In order to minimize interview length (and maximize budgets), respondents in earlier surveys who failed to get a specified number of items correct during the initial portion of the interview were discontinued, under the assumption that most, if not all, of the remaining responses would be incorrect (items were arranged in order of difficulty). For the final survey, this criterion was omitted, so that every respondent completed all parts of the interview. The net effect was a desirable one -- all respondents attempted practically every item. A side effect, however, was that p-values for easier items placed later in the interview tended to rise when compared with earlier results. Consequently, the overall difference between the samples is exaggerated. Most of that difference is due to a change in the criterion for completion, rather than factors relative to sample size, item format, or field procedure.

2. Another independent sample, drawn specifically for the State of Texas, using funds provided by the Texas Education Agency and the Governor's Office, was simultaneous with the final national survey. Although detailed results are too numerous to mention here, data from the Texas effort, which replicated the national one, are remarkably consistent with national trends. The relationship of test performance to variables such as income, education, occupational status, urbanicity, ethnicity, sex, age, and a number of other demographic variables is practically identical for Texas and the nation. Further, patterns of responses for the Texas sample are essentially identical to those of the national sample. Items with high p-values nationwide have high p-values in Texas, and those with low p-values nationwide have low p-values in Texas.

A final note of caution regarding the interpretation of APL results, particularly those dealing with the three levels of competency, must be sounded here. Those who are familiar with the APL objectives know very well that each one comprises a broad sector of human behavior. Clearly, it is fruitless to try to list and to measure all the behaviors which are embedded within a particular APL objective. Ultimately, one must operationalize the objective by selecting a set of behaviors as measures of that particular objective. All APL estimates of competency are based on such operational definitions, and their limitations must be kept in mind.

V. HOW DO WE MEET THE NEED?

The United States has been in a preeminent position of world power and influence for decades. Citizens of this country are justifiably proud of their country's accomplishments in industry, science, technology, the arts, and, perhaps most of all, in their system of universal free public education. Millions of mothers and fathers have intuitively subscribed to that tenet of the American dream which holds that education is the major avenue to success for their daughters and sons. Accordingly, Americans are, by many standards, the best educated and the most affluent people on earth.

Concomitant with this historical emphasis upon education and its benefits is the popular conception that "illiteracy" is a problem unique to the economically underdeveloped nations -- the "Third World" countries. How could the United States, with its billions of dollars spent on education each year, have any significant literacy problem?

To be sure, we have been willing to commit a very small portion of our resources, private, state and federal, to literacy and related programs. The motivation behind this commitment is probably not due to a perception of a widespread need which is crucial to the well-being of our country. More likely, it is one of noblesse oblige. For the most part, ABE has been perceived as a peripheral enterprise with an extremely limited clientele. After all, if only a minute fraction of the population is "illiterate," there can be no justification for spending more than a minute fraction of the nations' resources toward eliminating the problem.

As long as "literacy" is conceived to be nothing more than the ability to read and write one's name, or to score at some low grade level on a standardized test developed for children, then the United States probably does not have a significant problem. On the other hand, if the concern is with the adult who does not possess those skills and knowledges which are requisite to adult competence, then the results of the APL research suggest that there is, indeed, a widespread discrepancy in our adult population between what is required of them and what they achieve. It is surprising, perhaps even shocking, to suggest that approximately one of five Americans is incompetent or functions with difficulty and that about half of the adult population is merely functional and not at all proficient in necessary skills and knowledges.

The rest of this section deals with other implications and possible methods of implementation or dissemination. Because the original focus of the APL project was the ABE system, more attention will be given to that enterprise than to other educational systems. There are, however, implications for elementary and secondary education, which will also be presented.

Implications for Adult and Adult Basic Education

Let us summarize the products of the APL project to date. Essentially, the APL project was given the charge of specifying those competencies which are functional to adult life, with the implication that these competencies would become the core of objectives for ABE. Specifically, the APL project has accomplished the following tasks:

1. Developed and validated a series of objectives which comprise adult functional competency.

2. Conducted a series of national assessments of performance of adults with respect to these objectives.

3. Created, as a by-product of the research, a prototype test of adult functional competency.

The discussion which follows describes some activities or products which are indicated for ABE at four operational levels: the classroom or instructional level, the local program level, the state level, and the federal or national level.

--- At the CLASSROOM LEVEL (Teacher-student)

1. Curricula based on APL objectives. Obviously, the APL objectives form the core around which ABE curricula may be constructed. The form which these curricula might take could, and probably will, be quite varied in order to meet local requirements. As mentioned earlier, several major curricula development efforts are already underway.

2. Diagnostic, placement, and assessment devices. The APL study has built a solid research base for developing measures of overall student progress, pacing measures, such as curriculum-embedded tests, and devices used for placement or diagnosis.

--- At the LOCAL PROGRAM LEVEL (Local Program Director)

1. Guidelines for program objectives. Much curricula development work in ABE is conducted at this level. The APL objectives form a valuable set of guidelines for developing local curricula.

2. Local program effectiveness assessment. Because of the ambiguity regarding the instructional goals of ABE, local programs have traditionally had difficulty in documenting or measuring progress. Since the APL research has specified objectives and suggested ways of measuring behavior related to these objectives, an opportunity exists for local programs to meaningfully assess their effectiveness.

3. Staff Development. Any APL curriculum effort will require extensive training and development of local staff. For more details, see "Staff Development" under the State Level.

--- At the STATE LEVEL (State Director of ABE and other concerned State Officials)

1. State guidelines or foci for instructional objectives. Since education is properly a function of the state, the state department of education in the form of the state director of adult education and his or her staff, has an opportunity to take the leadership in providing comprehensive programs dealing with basic education for adult life. With appropriate input from other state agencies, state-level officials can provide guidelines and direct resources to develop instructional programs which address the functional competencies identified by the APL project.

2. Statewide instructional effectiveness assessment. States have traditionally experienced difficulty in collecting evidence regarding the effectiveness of their programs. APL objectives and data can form a base upon which to meaningfully document statewide ABE program progress, as well as to provide a framework for reporting to the federal level.

Related to the function of assessing instructional effectiveness, is the possibility of conducting statewide competency assessments. Even though national levels of performance are known, APL surveys do not provide enough precision to describe a particular state. Since states are bound to differ with respect to performance on different APL objectives, conducting state assessments of adult competence could provide extremely valuable data for planning programs.

3. Staff Development. Preliminary experience with curricula designed around APL objectives indicates that teachers will require significant retraining in order to function effectively in providing basic education for adult life. Those efforts which are now underway utilize the teacher more as an instructional manager and resource person rather than in the traditional role of lecturer and imparter of knowledge. Furthermore, there are strong suggestions that future APL-based curricula will require fulltime, highly trained teachers. These requirements certainly have implications for staff development and for teacher certification, which are primary concerns of the state director.

--- At the NATIONAL LEVEL (OE)

1. National Dissemination of APL objectives. Although the Office of Education is clearly not in the business of setting national educational standards, there is nevertheless the opportunity to provide leadership which can come only from this level in disseminating the objectives as suggested foci for programs dealing with undereducated adults. The Office of Education, working with a variety of state agencies and other federal agencies, can have a major impact on educational practices at every level insuring that the results of the study and its implications for practice are well known throughout the educational and social service communities.

2. National Dissemination of APL Data. The Office of Education now has at its command a process which can meaningfully describe the level of competency of the adult population of the U.S. For reasons similar to those described above, the Office of Education has an opportunity to provide guidance, leadership, and assistance to states which it never had before. The ways in which this process can be used are numerous: Assessing the effectiveness of federally-funded programs, developing more useful reporting procedures, and maintaining a continuous assessment of national literacy levels over time are only a few of them.

Implications for Elementary and Secondary Education

The astute reader will have perceived by now that (assuming the research is any good) the implications of APL research are by no means confined to adult or adult

basic education. If it is true that a significant proportion of Americans do not possess important skills and competencies, it is patently wasteful of human and financial resources to wait until persons reach adulthood to begin to address those needs.

When one examines the APL objectives, it is interesting to compare the competencies described in the APL objectives to the curricular offerings typically found in elementary and secondary education. A brief examination will quickly reveal that, although many of them are indirectly addressed, not much of the typical school day is spent in focus on the objectives per se. This is not to indict the elementary and secondary systems -- too much of that has occurred already. The findings do suggest, however, that to the extent that producing functionally competent adults is an important goal of elementary and secondary education, state and local education agencies would do well to examine the functional competencies vis a vis their curricula and state requirements for high school completion.

Some states, notably Oregon, have already begun requiring students to complete a series of adult life-related performance tasks before awarding certification of high school completion. This is the kind of practice which seems to be entirely consonant with the APL findings.

To Summarize

Because of precedent and tradition, "literacy" is a static, low-level concept which is largely unrelated to the pragmatic requirements for adult life in this country. Using the term "functional competence", the APL project has developed a research process which has identified competencies which are important to success as adults. Using an assessment method which stems from viewing functional competence as a function of individual capabilities and societal requirements, the APL project has produced data which suggest that, contrary to popular belief, many adults do not have that basic education for living which is indicated for even minimal levels of success. These results, and the objectives upon which they are based, can have profound implications for educational practice, and form a base of information and evidence which can be used to make different educational systems more responsive to the needs of both their clients and society.

TAB A

A NOTE CONCERNING APL GOALS, OBJECTIVES, AND TASKS

Attached is the current version of the APL description of competency. This description is organized by general knowledge area. Within each general knowledge area, requirements are described in three successive levels of detail.

The first level is a goal statement, which is a broad description of the capability which the functionally competent adult should possess for that particular general knowledge area.

The goal statement is defined by a series of intermediate-level requirements called objectives. The objective is the fundamental building block of the APL description of competency. Some degree of mastery of these objectives, the degree depending on the adult's individual milieu, is required for true functional competency.

Each objective, in turn, is described by a series of situation-specific requirements called tasks. Mastery of an objective is manifested by the individual adult's ability to perform a group of tasks -- to respond appropriately to specific situations which reflect the requirements of the objective. Since the tasks are currently undergoing a thorough revision, only the goals and objectives are included in this presentation.

The implications of this caveat concerning the APL tasks become especially important when one attempts to translate the APL description of competency into curriculum or other training programs for undereducated adults. When used for this purpose, tasks should be considered as paradigms or general guidelines. They should not be interpreted as being ingraved in stone, because it is the objective that is the most important element in the requirements for functional competency.

OBJECTIVES FOR FUNCTIONAL COMPETENCY

OCCUPATIONAL KNOWLEDGE

GOAL: TO DEVELOP A LEVEL OF OCCUPATIONAL KNOWLEDGE WHICH WILL ENABLE ADULTS TO SECURE EMPLOYMENT IN ACCORDANCE WITH THEIR INDIVIDUAL NEEDS AND INTERESTS.

1. OBJECTIVE: To build an oral and written vocabulary related to occupational knowledge.

2. OBJECTIVE: To identify sources of information (e.g., radio broadcasts, newspapers, etc.) which may lead to employment.

3. OBJECTIVE: To define occupational categories in terms of the education and job experience required, and to know minimum requirements of given occupations.

4. OBJECTIVE: To be aware of vocational testing and counseling methods which help prospective employees recognize job interests and qualifications.

5. OBJECTIVE: To understand the differences among commerical employment agencies, government employment agencies and private employers.

6. OBJECTIVE: To prepare for job applications and interviews.

7. OBJECTIVE: To know standards of behavior for various types of employment.

8. OBJECTIVE: To know attributes and skills which may lead to promotion.

9. OBJECTIVE: To know the financial and legal aspects of employment.

10. OBJECTIVE: To understand aspects of employment other than financial which would affect the individual's satisfaction with a job.

CONSUMER ECONOMICS

GOAL: TO MANAGE A FAMILY ECONOMY AND TO DEMONSTRATE AN AWARENESS OF SOUND PURCHASING PRINCIPLES.

1. OBJECTIVE: To build an oral and written consumer economics vocabulary. This should be an ongoing process through each objective.

2. OBJECTIVE: To be able to count and convert coins and currency, and to convert weights and measures using measurement tables and mathematical operations.

3. OBJECTIVE: To understand the concepts of sales tax and income tax.

4. OBJECTIVE: To be aware of the basic principles of money management, including knowing the basics of consumer decision-making.

5. OBJECTIVE: To use catalogs, consumer guides and other reference documents to select goods and services.

6. OBJECTIVE: To be aware of factors that affect costs of goods and services and to determine the most economical places to shop.

7. OBJECTIVE: To be aware of the principles of comparison shopping, and to be aware of the relationship of price to quality among brand names, and between "firsts" and "seconds" and to be able to substitute economy for quality according to individual needs.

8. OBJECTIVE: To know the various methods by which goods are packaged and to know which methods are most cost-effective in terms of quality and storage.

9. OBJECTIVE: To be able to take advantage of sales by knowing where to find them, by planning for their eventuality, and by being able to determine which are of worthwhile value to the individual.

10. OBJECTIVE: To be aware of advertising techniques and to recognize appropriate and inappropriate forms of selling and advertising.

11. OBJECTIVE: To know how to order food and to tip in a restaurant.

12. OBJECTIVE: To be aware of different stores where home furnishings can be purchased and to determine the best buys for essential and luxury items based on individual needs and resources.

13. OBJECTIVE: To determine housing needs and to know how to obtain housing and utilities based on those needs.

14. OBJECTIVE: To know how to buy and maintain a car economically.

15. OBJECTIVE: To know basic procedures for the care and upkeep of personal possessions (home, furniture, car, clothing, etc.) and to be able to use resources relating to such care.

16. OBJECTIVE: To know the various media of exchange and to be familiar with banking services in the community.

17. OBJECTIVE: To develop understanding of credit systems.

18. OBJECTIVE: To collect information concerning the types of insurance available and to be able to select the best insurance for the individual and his family.

19. OBJECTIVE: To know the recourses available to the consumer in the face of misleading and/or fraudulent product/service claims or tactics.

20. OBJECTIVE: To understand the implication of consumption vis-a-vis finite world resources and to recognize that each individual's pattern of consumption influences the general welfare.

HEALTH

GOAL: TO INSURE GOOD MENTAL AND PHYSICAL HEALTH FOR THE INDIVIDUAL AND HIS FAMILY.

1. OBJECTIVE: To develop a working vocabulary related to health, especially as it related to basic medical and physiological terminology, for accurate reporting of symptoms and following a doctor's directions in applying treatments.

2. OBJECTIVE: To understand how basic safety measures can prevent accidents and injuries and to recognize potential hazards, especially as such hazards relate to home and occupational safety.

3. OBJECTIVE:To know medical and health services in the community.

4. OBJECTIVE: To understand the physical and psychological influences on pregnancy as well as the need for proper prenatal care.

5. OBJECTIVE: To underatand the importance of family planning, its physical, psychological, financial and religios implication; and to have knowledge of both effective and ineffective methods of birth control.

6.OBJECTIVE: To understand general child rearing practices and procedures for guarding the health and safety of a child and to apply proper action in accordance with needs and resources.

7. OBJECTIVE: To understand the special health needs and concerns of the adolescent (and his parents) and to become acquainted with some ways to ease the transition from childhood to adulthood.

8. OBJECTIVE: To understand what contributes to good mental health and physical health and to apply this understanding toward preventive care and health maintenance.

9. OBJECTIVE: To understand the interaction of self as a member of small groups (family, work, club, class) and to use this understanding to promote effective interpersonal coping skills.

10. OBJECTIVE: To be able to apply first aid in emergencies and to inform proper authorities of sudden illnesses, various accidents or natural disasters.

11. OBJECTIVE: To plan for health or medical insurance and to be aware of available financial assistance for medical or health problems.

12. OBJECTIVE: To understand what constitutes a proper diet and to plan meals according to individual needs and resources.

13. OBJECTIVE: To understand federal control of various drugs and items for health protection and to understand how public reaction influences this control.

GOVERNMENT AND LAW

GOAL: TO PROMOTE AN UNDERSTANDING OF SOCIETY THROUGH GOVERNMENT AND LAW AND TO BE AWARE OF GOVERNMENTAL FUNCTIONS, AGENCIES AND REGULATIONS WHICH DEFINE INDIVIDUAL RIGHTS AND OBLIGATIONS.

1. OBJECTIVE: To develop a working vocabulary related to government and law in order to understand their functions in society and in the personal life of the individual. This should be an ongoing process as each objective is covered.

2. OBJECTIVE: To develop an understanding of the structure and functioning of the federal government.

3 OBJECTIVE: To investigate the relationship between the individual citizen and the government.

4. OBJECTIVE: To understand the relationship between the individual and the legal system.

5. OBJECTIVE: To obtain a working knowledge of the various legal documents which the individual will need as a member of society.

6. OBJECTIVE: To explore the relationship between government services and the American tax system.

COMMUNITY RESOURCES

GOAL: TO UNDERSTAND THAT COMMUNITY RESOURCES, INCLUDING TRANSPORTATION SYSTEMS ARE UTILIZED BY INDIVIDUALS IN SOCIETY IN ORDER TO OBTAIN A SATISFACTORY MODE OF LIVING.

1. OBJECTIVE: To build an oral and written vocabulary pertaining to community resources and to define community resources in terms of (a) services to community members and (b) services to persons outside the community or non self-supporting members of society (unemployed, criminals, insane, etc.)

2-3. OBJECTIVE: To know the types of community services provided for members of society including the purposes of and how to gain access to these services.

4. OBJECTIVE: To understand how and when to apply for community services, such as Social Security, and Medicare.

5. OBJECTIVE: To know various recreational services available in the community.

6. OBJECTIVE: To be able to utilize information services of the community.

7. OBJECTIVE: To be aware of the people and agencies in the community whose job it is to register and act upon citizen complaints.

SUBSET: TRANSPORTATION

8. OBJECTIVE: To build an oral and written vocabulary of transportation terms, including car insurance terms.

9. OBJECTIVE: To be able to recognize and utilize signs related to transportation needs.

10. OBJECTIVE: To develop a familiarity with transportation schedules, and to calculate fares.

11. OBJECTIVE: To be able to find and utilize information facilities.

12. OBJECTIVE: To learn the use of maps relating to travel needs.

13. OBJECTIVE: To recognize time zone boundaries and understand the concept of daylight savings time.

14. OBJECTIVE: To request information on and make verbal and written travel and overnight accomodations/reservations.

15. OBJECTIVE: To understand the relationship between transportation and public problems.

16. OBJECTIVE: To understand driving regulations, including safety, courtesy, and rules such as having a driver's license, car license plates, etc.

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EXECUTIVE SUMMARY

A U. S. Office of Education funded research project has completed a four year investigation of adult functional competencies which are important to coping and surviving in the society of the seventies. In the process, the Adult Performance Level (APL) Study has redefined the concept of functional literacy and has produced new estimates of the rate of illiteracy for the United States.

According to the APL concept, functional literacy or competency is not simply the ability to read or write at some arbitrarily chosen low grade level. APL research defines functional literacy as the ability of an adult to apply skills to several major knowledge areas which are important to adult success. The skills which have been identified as important to functional literacy are the communication skills (reading, writing, speaking, and listening), computation, problem solving, and interpersonal relations. These skills are applied in everyday life situations, which are categorized into broad "general knowledge areas" called occupational knowledge, consumer economics, health, community resources, and government and law.

Using this two-dimensional concept, the project has defined 65 requirements for functional literacy. As a means of assessing how well American adults meet these requirements, five national surveys of American adults have been conducted. Using simulations of requirements keyed to the APL definition of literacy (such as reading job notices, making change, shopping, locating needed services, or understanding insurance), the APL project has developed a general index of literacy which classifies adults into one of three categories: APL 1--those adults who function only with difficulty because of their unsatisfactory mastery of the requirements for functional literacy; APL 2--those adults who are functional, but not proficient; and APL 3--those adults who are proficient.

These surveys indicate that almost one of five adults is in the APL 1, or non-functional category. The following table summarizes the proportion of adults in each functional literacy category (by percentages).

Areas	APL Functional Literacy Levels		
	1	2	3
Occupational Knowledge	19.1	31.9	49.0
Consumer Economics	29.4	33.0	37.6
Government and Law	25.8	26.2	48.0
Health	21.3	30.3	48.3
Community Resources	22.6	26.0	51.4
Skills			
Reading	21.7	32.2	46.1
Problem Solving	28.0	23.4	48.5
Computation	32.9	26.3	40.8
Writing	16.4	25.5	58.1
Overall Competency Levels	19.7	33.9	46.3

In terms of the general knowledge areas, the greatest area of difficulty appears to be Consumer Economics. Almost 30% of the population falls into the lowest level (APL 1), while one-third of the population is categorized as APL 2. Translated into population figures, some 34.7 million adult Americans function with difficulty and an additional 39 million are functional, but not proficient, in coping with basic requirements that are related to Consumer Economics.

The highest proportion of proficient persons (most able to cope) is found in relation to Community Resources. Over half of the U.S. population falls into APL level 3. This is followed by Occupational Knowledge; again, almost half of the population is estimated to be proficient in dealing with occupationally related tasks. Although the least proportion of persons in comparison to all areas are in level 1 of Occupational Knowledge, this still indicates that about one of every five adults in the U.S. functions with difficulty or is unable to perform correctly on occupationally related performance indicators.

The greatest proportion of people unable to perform basic skills is found in the computations area. Approximately one-third of the population, or 39 million adults, functions with difficulty, and a little over one-fourth, or 29.5 million adults, is functional but not proficient in task performance on items requiring mathematical manipulation. The area of greatest competency in comparison with other skills is in writing. However, even though almost three-fifths of the population performed adequately on tasks requiring writing skills, 16% of the adults in the U.S., or some 18.9 million persons, are unable to cope successfully.